Operator Preventive Maintenance Checks and Services

6525-01-312-6411
X-Ray Apparatus, Radiographic/Fluoroscopic, Model CS-8952

[B-Before Operation, D-During Operation, A-After Operation, Q-Quarterly, and S-Semiannually]

ITEM NO	INTERVAL	ITEM TO BE INSPECTED AND PROCEDURE	IS NOT MISSION CAPABLE IF:
1	B, A	**X-Ray Apparatus**	
		a. Conduct an inventory to ensure that the items listed on the Equipment Parts and Accessories List are on hand.	Missing components prevent the use of the unit.
		b. Inspect unit for physical damage, rust, or excessively worn components.	Unserviceable components prevent the use of the unit.
		c. Verify that the Verification/Certification sticker (DD Form 2163) has a current date.	The x-ray apparatus has not been verified within the last 12 months.
2	B, A	**X-Ray Operational Test**	
		a. Perform daily pre-operational system check as directed by manufacture's literature.	
		NOTE: Ensure that personal protective apron, lead blockers, and suitable radiation protection measures are taken.	
		(1) Turn power on and adjust line set as needed.	The line adjustment cannot be accomplished.
		(2) Perform table check.	There are any malfunctions or unusual noises.
		(a) Press and hold the longitudinal switch on spot film device (SFD) until the tabletop reaches its limit of travel.	The tabletop does not move approximately 30" from its center position before it stops.
		(b) Press and hold the table longitudinal foot switch until the tabletop reaches its limit of travel.	The tabletop does not move approximately 30" from its center position before it stops.
		(c) Press and hold the table center switch until the tabletop stops.	The tabletop does not move to its center position from either of the above mentioned longitudinal positions, before stopping.
		(d) Press and hold the Trendelenburg tilt switch until the table reaches its maximum tilt and stops.	The table does not reach its maximum 12 degrees before stopping.
		(e) Press and hold the vertical tilt switch. The table should stop at the horizontal position. Release the switch, and press and hold the switch again. The table should rotate to its maximum tilt of 88 degrees, proving the tabletop is on "center."	The table does not reach center or if it does not rotate to 88 degrees.

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		(f) Press and hold the Trendelenburg tilt switch until the table stops at horizontal. Release the switch.	The table does not reach horizontal position.
		(g) On the spot film device, disengage the carriage locks and the compression locks and move the spot film device in all directions.	The device requires more than 20 pounds of force to move it.
		(3) Perform the tube stand check	
		(a) Verify that the tube stand is energized by operating the locks and moving it through its various motions.	The locks do not work or if the tube stand cannot be moved into various positions.
		(b) Check the collimator to ensure that all lamps will light.	All lamps do not energize.
		(4) Perform the spot film device (SFD) check.	
		(a) Observe the spot film device for the presence of power. All push buttons should be lit.	The buttons are not lit.
		(b) Insert an empty 9” x 9” cassette into the SFD tunnel. Cycle the cassette carriage by pressing the PARK/LOAD switch. The carriage should alternate between its park and load positions.	The carriage does not alternate between park and load positions.
		(c) Verify that various pictorial representations can be set on the display (i.e., 2 on 1, 3 on 1, and 9 on 1).	The display does not indicate the correct selection or the cassette is not motor powered into the correct position.
		(5) Perform the warm-up procedure.	
		NOTE: Always perform the warm-up procedure no more than one hour before the first case of the day or if the system has been idle for one hour or longer.	
		(a) Warm up the over-table tube.	
		[1] Disable autotiming and close the collimator blades. Select 70 kVp, 100 mA, 1.0 second.	The selections cannot be made.
		[2] Warm up the over-table x-ray tube by making four (4) exposures at 15-second intervals.	The unit will not make the exposures.
		(b) Make a fluoroscopic exposure by performing the following steps:	Fluoroscopic exposures cannot be made.

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ITEM NO	INTERVAL	ITEM TO BE INSPECTED AND PROCEDURE	IS NOT MISSION CAPABLE IF:
		[1] Press the 200L SPOT push button switch on the generator front panel.	
		[2] On the fluoroscopic controls section of the generator panel, select mA station B and rotate the “minutes” dial to the 5 (minute) position.	
		[3] Rotate the fluoroscopic kVp control until 70 kV is indicated on the fluoroscopic kVp meter. Ensure that the spot film device cassette carriage is in the park position.	
		[4] Place a suitable fluoroscopic kVp phantom on the tabletop in the in-beam position.	
		[5] Depress either the footswitch or x-ray push button on the spot film device.	
		[6] Observe the imaging system mirror. A sharp, clear x-ray image of the grid chamber mechanism should be displayed.	The unit does not produce a clear image.
		NOTE: Under-table (UT) shutters must always be visible and mechanically coned down as necessary.	
		[7] Place a 9” x 9” cassette into the SFD. (This should activate the system to make radiographic exposure). Locate the footswitch behind the operator barrier. Select an under table (UT) exposure of 70 kVp, 0.1 second. Depress footswitch, make fluoro exposure. From SFD location, make radiographic exposure.	The system will not transition from “fluoro” imaging to radiographic mode, with actual radiographic exposure.
		[8] Repeat above procedure with “Autotiming” set “ON.” Select “Table” and “Normal density.” Set radiographic exposure to about 50% more time than expected.	The system will not transition from “fluoro” mode to radiographic mode with exposure.
		NOTE: Phototiming failure does not deadline the system, but does reduce overall capability.	
		b. Clean x-ray unit as directed by the manufacturer’s literature.	